

Title (en)  
Wavelength variable laser device

Title (de)  
Verstellbare Wellenlängenlasereinrichtung

Title (fr)  
Dispositif laser à longueur d'onde variable

Publication  
**EP 0556016 B1 19980415 (EN)**

Application  
**EP 93300923 A 19930209**

Priority  
JP 2391392 A 19920210

Abstract (en)  
[origin: EP0556016A1] To provide a wavelength tunable laser device having a wavelength variable range of a broad band, and capable of simply changing the output wavelength. Excitation means 1 excites a laser medium 2a in a main resonator 2. The main resonator 2 is provided with two resonator mirrors 2b and an optical input/output port 2c in addition to the laser medium 2a. By the excitation means 1 and the main resonator 2, laser oscillation can be produced. A sub-resonator 3 is provided with wavelength selection means 3a and optical feedback means 3b. And, the sub-resonator selects a desired wavelength of the laser beam outputted from said main resonator and returns the laser beam of the desired wavelength back to said laser medium. In a device comprising the excitation means 1, the main resonator 2 and the sub-resonator 3, an optical output port 4 is provided. Since this wavelength tunable laser device has no necessity of providing wavelength selection means within the main resonator, laser oscillation is easily produced. Accordingly, even in the case where the gain of the laser medium is small, or the excitation energy is small, oscillation can be produced. In addition, since the main resonator can be placed in an oscillating state at all times, the wavelength tunable laser device can be prevented from being stopped. <IMAGE>

IPC 1-7  
**H01S 3/105**; **H01S 3/082**

IPC 8 full level  
**H01S 5/06** (2006.01); **H01S 3/082** (2006.01); **H01S 3/105** (2006.01)

CPC (source: EP US)  
**H01S 3/082** (2013.01 - EP US); **H01S 3/105** (2013.01 - EP US)

Citation (examination)

- US 3739295 A 19730612 - SHAH J
- ELECTRONICS LETTERS, vol. 14, no. 16, 04.08.88, pages 988-989
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- PATENT ABSTRACTS OF JAPAN vol. 011, no. 171 (E - 512)<2618> 2 June 1987 (1987-06-02)

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Designated contracting state (EPC)  
DE GB

DOCDB simple family (publication)  
**EP 0556016 A1 19930818**; **EP 0556016 B1 19980415**; DE 69317923 D1 19980520; DE 69317923 T2 19980827; JP 3176682 B2 20010618; JP H05226749 A 19930903; US 5357532 A 19941018

DOCDB simple family (application)  
**EP 93300923 A 19930209**; DE 69317923 T 19930209; JP 2391392 A 19920210; US 1543693 A 19930209